

PATENT
Attorney Docket No. 12636-268

We claim:

- 1 1. A polymorphic form of 9-nitrocamptothecin, the polymorph being
2 characterizable as having, by differential scanning calorimetry, an endotherm at
3 between 273.9 to 275.9 °C, and an exotherm at between 279.3 and 281.3 °C.
- 1 2. A polymorphic form of 9-nitrocamptothecin according to claim 1, the
2 polymorph being further characterizable as having, by differential scanning
3 calorimetry, an endotherm at between 274.4 to 275.3 °C, and an exotherm at between
4 279.8 and 280.8 °C.
- 1 3. A polymorphic form of 9-nitrocamptothecin according to claim 1, the
2 polymorph being further characterizable as having, by differential scanning
3 calorimetry, an endotherm at between 274.7 to 275.1 °C, and an exotherm at between
4 280.1 and 280.5 °C.
- 1 4. A polymorphic form of 9-nitrocamptothecin according to claim 1, the
2 polymorph being further characterizable as having, by differential scanning
3 calorimetry, an endotherm at between 274.8 to 275.0 °C, and an exotherm at between
4 280.2 and 280.4 °C.
- 1 5. A polymorphic form of 9-nitrocamptothecin, the polymorph being
2 characterizable as having, by differential scanning calorimetry, an endotherm at
3 between 273.9 to 275.9 °C, and an exotherm at between 279.3 and 281.3 °C.
- 1 6. A polymorphic form of 9-nitrocamptothecin, the polymorph being
2 characterizable as having, for Cu $K\alpha$ radiation of wavelength of 1.5406 Angstrom, an
3 X-ray powder diffraction pattern with diffraction lines at $^{\circ}2\theta$ values 4.8, 14.2, 19.1
4 and 26.8.

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1 7. 9-nitrocamptothecin in a form crystallized from acetonitrile.

1 8. A polymorphic form of 9-nitrocamptothecin according to claim 7, the
2 polymorph being characterizable as having, differential scanning calorimetry, an
3 endotherm at between 273.9 to 275.9 °C, and an exotherm at between 279.3 and 281.3
4 °C.

1 9. A polymorphic form of 9-nitrocamptothecin according to claim 7, the
2 polymorph being characterizable as having an X-ray powder diffraction pattern with
3 diffraction lines at $^{\circ}2\theta$ values 4.8, 14.2, 19.1 and 26.8 for Cu $K\alpha$ radiation of
4 wavelength 1.5406 Angstrom.

1 10. A polymorphic form of 9-nitrocamptothecin according to claim 7, the
2 polymorph being characterizable as having, for Cu $K\alpha$ radiation of wavelength 1.5406
3 Angstrom, an X-ray powder diffraction pattern with diffraction lines at $^{\circ}2\theta$ values
4 4.8, 14.2, 19.1 and 26.8.

1 11. A pharmaceutical composition comprising:
2 a pharmaceutical carrier; and
3 a polymorphic form of 9-nitrocamptothecin, the polymorph being
4 characterizable as having, by differential scanning calorimetry, an endotherm at
5 between 273.9 to 275.9 °C, and an exotherm at between 279.3 and 281.3 °C.

1 12. A pharmaceutical formulation according to claim 11, the polymorph being
2 further characterizable as having, by differential scanning calorimetry, an endotherm
3 at between 274.4 to 275.3 °C, and an exotherm at between 279.8 and 280.8 °C.

1 13. A pharmaceutical formulation according to claim 11, the polymorph being
2 further characterizable as having, by differential scanning calorimetry, an endotherm
3 at between 274.7 to 275.1 °C, and an exotherm at between 280.1 and 280.5 °C.

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1 14. A pharmaceutical formulation according to claim 11, the polymorph being
2 further characterizable as having, by differential scanning calorimetry, an endotherm
3 at between 274.8 to 275.0 °C, and an exotherm at between 280.2 and 280.4 °C.

1 15. A pharmaceutical composition comprising:
2 a pharmaceutical carrier; and
3 a polymorphic form of 9-nitrocamptothecin, the polymorph being characterizable as
4 having, by differential scanning calorimetry, an endotherm at between 273.9 to 275.9
5 °C, and an exotherm at between 279.3 and 281.3 °C.

1 16. A pharmaceutical composition comprising:
2 a pharmaceutical carrier; and
3 a polymorphic form of 9-nitrocamptothecin, the polymorph being characterizable as
4 having, for Cu $K\alpha$ radiation of wavelength of 1.5406 Angstrom, an X-ray powder
5 diffraction pattern with diffraction lines at $^{\circ}2\theta$ values 4.8, 14.2, 19.1 and 26.8.

1 17. A pharmaceutical composition comprising:
2 a pharmaceutical carrier; and
3 a polymorphic form of 9-nitrocamptothecin crystallized from acetonitrile.

1 18. A pharmaceutical formulation according to claim 17, the polymorph being
2 characterizable as having, differential scanning calorimetry, an endotherm at between
3 273.9 to 275.9 °C, and an exotherm at between 279.3 and 281.3 °C.

1 19. A pharmaceutical formulation according to claim 17, the polymorph being
2 characterizable as having an X-ray powder diffraction pattern with diffraction lines at
3 $^{\circ}2\theta$ values 4.8, 14.2, 19.1 and 26.8 for Cu $K\alpha$ radiation of wavelength 1.5406
4 Angstrom.

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- 1 20. A method of preparing a polymorphic form of 9-nitrocamptothecin, the
- 2 method comprising:
- 3 crystallizing 9-nitrocamptothecin from acetonitrile.

- 1 21. A method according to claim 20, the polymorph being characterizable as
- 2 having, differential scanning calorimetry, an endotherm at between 273.9 to 275.9 °C,
- 3 and an exotherm at between 279.3 and 281.3 °C.

- 1 22. A method according to claim 20, the polymorph being characterizable as
- 2 having an X-ray powder diffraction pattern with diffraction lines at $^{\circ}2\theta$ values 4.8,
- 3 14.2, 19.1 and 26.8 for Cu $K\alpha$ radiation of wavelength 1.5406 Angstrom.